

REMARKS

The present invention is a method for defining the relationship between frequency and amplitude of a pulse function modulating a data stream for transmission in a telecommunications system, a method for defining the relationship between frequency and amplitude of a pulse function for acting on a data stream for transmission in a telecommunications system and a dual mode communication system operable in a first mode in a second mode. A method for defining the relationship between frequency and amplitude of a pulse function modulating a data stream for transmission in a telecommunications system in accordance with a predetermined modulation scheme to compensate for distortion by a component of the transmitter (as illustrated in Figs. 2, 3, 4C 7 and 8) wherein the telecommunications system has desired criteria for respective associated cost parameters and the pulse function for modulating is determining by defining cost functions representing the deviation of a respective one of the cost parameters from the associated desired system criteria and defining the amplitude of the pulse function over a range of frequencies in dependence on the cost functions and the distortion for which compensation is to be made. The invention utilizes a clock and look-up tables containing data for adaptive shaping the pulse function to compensate for component distortion. See page 15, lines 4-14 of the specification. The look-up table comprises data defining the amplitude of the pulse function of a range of frequencies which meet the telecommunications system requirements and compensate for component distortion. See page 15, lines 24-26 of the specification.

Claims 1-5 and 8-13 stand rejected under 35 U.S.C. §102 as being anticipated by United States Patent 6,072,364 (Jeckeln et al.). These grounds of rejection are traversed for the following reasons.

Jeckeln et al. discloses an adaptive method and device for predistorting a signal to be transmitted. Jeckeln et al. provides real time modeling provided by a real time modeling circuit 12. The real time modeling of Jeckeln et al. is a form of the “active pre-distortion” described on page 1 of the specification as a known mechanism.

It is submitted that the Examiner has erroneously construed Jeckeln et al. as anticipating independent claims 1, 10, 28, 29 and 32-33.

Claim 1 recites the method of defining cost functions representing the deviation of a respective one of the cost parameters from the associated desired system criterion; and defining the amplitude of the pulse function of a range of frequencies in dependence on the cost functions and the distortion for which compensation is to be made. Jeckeln et al. differs principally from the subject matter of claim 1 in that Jeckeln pertains to a fixed cost function and a fixed pulse shape. Therefore, a person of ordinary skill in the art would not construe Jeckeln et al. to anticipate the aforementioned method steps. If the Examiner persists in the stated grounds of rejection it is requested that he explain on the record how Jeckeln et al.’s fixed cost function and fixed pulse shape is read upon the defining of cost functions used for defining the amplitude of a pulse function over a range of frequencies in dependence on the cost functions and the distortion for which the compensation is to be made as recited on claim 1.

Claim 10 recites the method of any proceeding claim for defining the amplitude of the pulse function of a range of frequencies in dependence on the desired cost parameters for the first components; defining the cost parameters for the second component on the basis for distortion to be compensated for in a second component; and defining the amplitude of a pulse function of a range of frequencies in dependence upon distortion functions of the second component and the pulse function defined for the first component. It is submitted that Jeckeln et al.'s fixed cost function and fixed pulse shape can not be read upon the subject matter of claim 10. If the Examiner persists in the stated grounds of rejection it is requested that he state on the record how he is reading Jeckeln et al. on claim 10.

Claim 28 recites a dual mode communication device for modulating a data stream with a carrier signal in accordance with a predetermined modulation scheme in both the first and the second modes of operation and a pulse function generator for shaping a data stream in accordance with respective pulse functions responsive to the mode of operation of the communication device and distortion by a component of the transmitter. As stated above, it is submitted that Jeckeln et al.'s fixed cost function and fixed pulse shape can not be read upon the subject matter of claim 28. If the Examiner persists in the stated grounds of rejection it is requested that he state on the record how he is reading Jeckeln et al. on claim 28.

Claim 29 recites first and second pulse generators, means for selecting a pulse function generator in accordance with the mode of operation of the communication device and one of the pulse functions is shaped in accordance with the relationship defined by the method of claim 1. Similarly to what has been stated

above, it is submitted that the fixed cost function and fixed pulse shape of Jeckeln et al. can not be read upon the subject matter of claim 29. If the Examiner persists in the stated grounds of rejection it is requested that he state on the record how he is reading Jeckeln et al. on claim 29.

Claim 32 is patentable for the same reasons as set forth above with respect to claim 29.

Claim 33 recites defining pulse functions for first and second modulation schemes, determining the resultant cost parameters for each scheme and selecting the modulation scheme which gives resultant cost parameters given the desired cost parameters. It is submitted that the fixed cost function and fixed pulse shape of Jeckeln et al. can not be read upon the subject matter of claim 33. If the Examiner persists in the stated grounds of rejection it is requested that he state on the record how he is reading Jeckeln et al. on claim 33.

Dependent claims 2-5, 8, 9, 11-27, 30 and 31 further limit the subject matter of the independent claims in a manner which is not anticipated by Jeckeln et al.

Claims 6 and 7 stand rejected under 35 U.S.C. §103 as being unpatentable over Jeckeln et al. in view of United States Patent 5,070,254 (Summers). These grounds of rejection are traversed for the following reasons.

Summers has been cited as disclosing that is well known to use predistortion to compensate for distortion produced in a reconstruction filter. However, Summers does not cure the deficiencies as noted above with respect to Jeckeln et al. Accordingly, it is submitted that claims 6 and 7 are patentable.

In view of the foregoing amendments and remarks it is submitted that each of the claims in the application is in condition for allowance. Early allowance thereof is respectfully requested.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (referencing attorney docket no. 367.38796X00).

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

A handwritten signature in black ink, appearing to read "Donald E. Stout", is written over a horizontal line.

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